



**Public Address Device**

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**DSP1501**

**Phased Array Column Speaker**

## **Operation Manual**

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Welcome to use our Public Address System. For better use of this equipment, please read this manual carefully before use.

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## The subassemblies of Phased-array Column Speaker:



Infrared remote controller



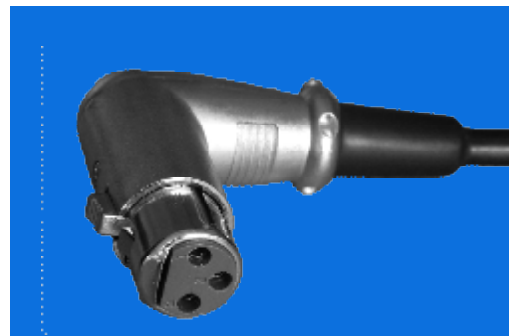
RCA connector



Speaker fixing screws x 2



XLR connector - male



XLR connector - female

## 1. Product Description

The phased-array column speaker is a new type of public address device. By applying the electronic and digital signal processing (DSP) technologies, it can simulate the directivity of different shapes of column speakers, while the inherent performances of the phased-array column speaker will not be affected, e.g. rated power, range of frequency response and max. sound pressure level.

With DSP technologies, we may operate from the remote controller to change the directivity of speaker system at some extent. This is suitable for public address in a hall where the building acoustics is poor (especially long reverberation time). This product is most suitable for the hardware (speaker, DSP processor) of the public address system in sports venues (where the volume of space is large, the building acoustics is poor, the reverberation time is long and the sound is muddy), that it can be combined with special software to make the controllable sound cover useful area (auditoria, etc) correctly and prevent it from diffusion to useless area (e.g. ceiling, door or window). In this case, it can reduce the investment in material of acoustic decorations in venues and decrease the energy loss caused by public address system. This leads to reduced investment in both the acoustic decorations and public address system in the sports venue.

## 2. Functions

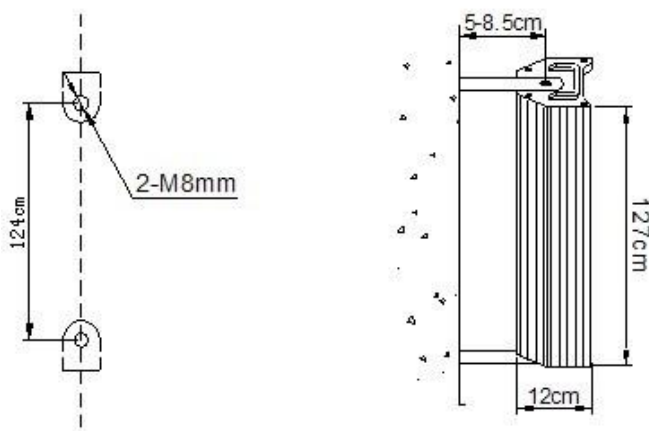
- I Acoustically simulate the column speakers of different shapes, e.g. inclined, concave, convex and more complicates shapes.
- I Active column speaker with built-in digital signal processor and digital power amplifier, so that it is no need for driving of external power amplifier.
- I This unit has AUX signal input, AUX signal output and constant voltage power signal input (70V or 100V).
- I Volume, tone and other parameters of the column speaker can be adjustable.
- I The LED screen on the lower part of the unit can display different parameters and messages.
- I Operate from infrared remote controller.
- I Compact size, easy installation and high electro-acoustic sensitivity.

## 3. Description of Remote Controller Keypad

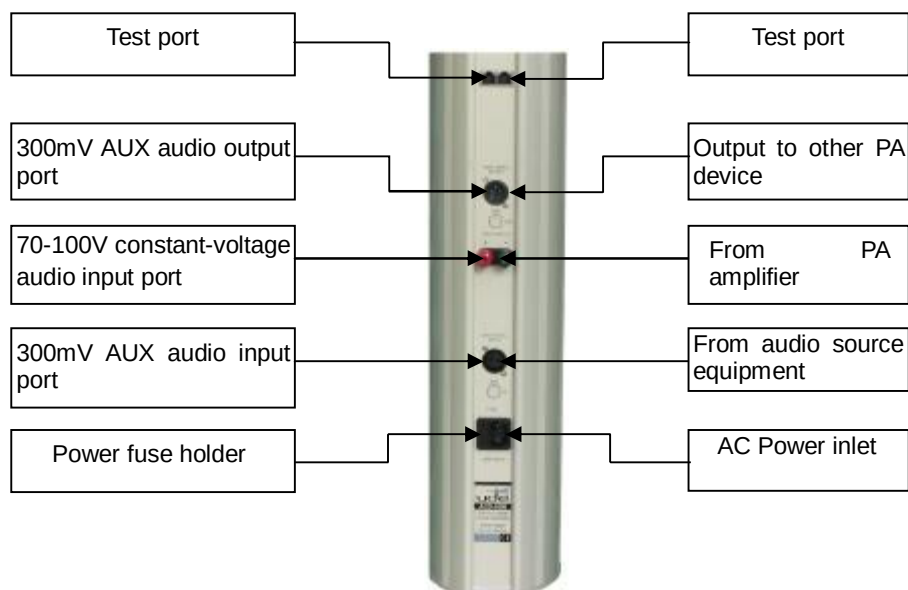
| Key                                                                                 | Function                   | Operation                                                                                  | Remarks                                              |
|-------------------------------------------------------------------------------------|----------------------------|--------------------------------------------------------------------------------------------|------------------------------------------------------|
|  | Power ON/OFF               | One touch of this key slightly                                                             | It takes approx. 5s for startup.                     |
|  | Sound ON or OFF            | One touch of this key slightly                                                             |                                                      |
| <b>EQ</b>                                                                           | Equalization adjustment    | One touch slightly to enter into equalization interface. See Page 4 for operating methods. | 14-section equalization; amplitude $\pm 12\text{dB}$ |
| <b>AN+</b>                                                                          | Increase directivity angle | One touch to increase by $1^\circ$ . Hold down for 3s to increase continuously             | Max. angle: $+45^\circ$                              |
| <b>AN-</b>                                                                          | Decrease directivity angle | One touch to decrease by $1^\circ$ . Hold down for 3s to decrease continuously             | Min. angle: $-45^\circ$                              |
| <b>V+</b>                                                                           | Increase volume            | One touch to increase by 1 level. Hold down for 3s to increase continuously                | Max. volume: 32 levels                               |
| <b>V-</b>                                                                           | Decrease volume            | One touch to decrease by 1 level. Hold down for 3s to decrease continuously                | Min. value: 0                                        |
| <b>FOCUS+</b>                                                                       | Focus backward             | Every touch to move 1m backward. Hold down for 3s to move continuously                     | Nearest: -30m                                        |
| <b>FOCUS-</b>                                                                       | Focus forward              | Every touch to move 1m forward. Hold down for 3s to move continuously                      | Farthest: +30m                                       |
| <b>S Key</b>                                                                        | Select sensitivity         | One touch to view sensitivity; hold down to select value of sensitivity                    | 0dB, -6dB and -10dB available for selection          |

## 4. Installation Diagram:

1. Select a proper position on the surface where the column speaker is to be installed, and fix two screws  $\varnothing 8\text{mm}$ . As shown on right, mount the bracket and fix the column speaker.
2. Connect the wire correctly as described in Section 5. Check if the column speaker is secure and confirm that the connection is correct. Then, plug the power cable of column speaker into AC socket.



## 5. Description of Back Ports



## 6. Description of Remote Controller Keypad

1. Mute key
2. Sensitivity selection key (Sensitivity)
3. Volume setting key (V+) for increase and (V-) for decrease
4. Directivity setting key (AN+) for increase and (AN-) for decrease
5. Shift key for equalization setting (EQ)
6. Focus adjustment key (FOCUS+, -)
7. Treble adjustment key (TREBLE+, -)
8. Bass adjustment key (BASS+, -)
9. On/OFF key (Note: The ON/OFF key can only switch off the current play status, but it cannot switch off the main power of the column speaker). To switch off the power supply, please remove the power plug from the socket).



## 7. Operating Instructions

The phased-array column speaker is operated by infrared remote controller. The operation of remote controller is effective when it operates within 180° in front of the sound column.

1. Switch on the unit  $\xrightarrow{\text{Startup Interface}}$   (Firstly, the "UDE" will appear before entering this interface).

2. Adjust the volume  
Press "V+" or "V-"  $\xrightarrow{\text{Volume Interface}}$   (Max. volume: 32 levels; Min. volume: 0).

Infrared remote controller

3. Equalization Adjustment  
Press "EQ"  $\xrightarrow{\text{EQ Interface}}$   (Range of adjustable frequency: 80Hz-20kHz)

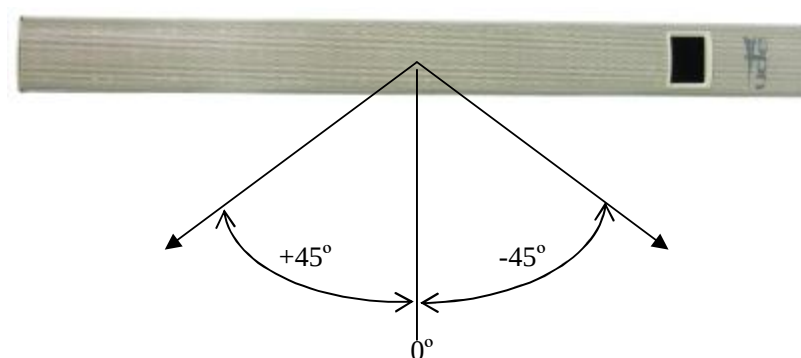
Press "V+ or V-" to move left and right for selection of frequency band (14 bands in total).

Press "AN+ or AN-" to adjust the amplitude of selected frequency band (Adjustable amplitude:

±12dB). After finishing the adjustment, press “EQ” to exit.

#### 4. Directivity Adjustment

Press “AN+ or AN-”  (Increase or decrease the directivity angle. The range of adjustment is as shown below).

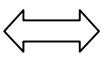


Indication for Adjustable Range of Directivity

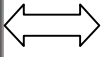
#### 5. Adjust Focus

Press “FOCUS+ or FOCUS-”  “+” indicates forward movement of focus. Max. forward movement: 99m;  
“-” indicates backward movement of focus. Max. backward movement: 99m.

#### 6. Mute

Press    Press  again 

#### 7. Select Input Sensitivity Value

Press “S”   Hold down “S” again 

With “S” key held down, the three sensitivity values, i.e. “00dBV, -06dBV and -10dBV” will be displayed alternatively. When the desired sensitivity value appears, please release “S” key, so that this sensitivity value will be effected.

#### 8. Energy-Saved Operation

If there is no operation to the column speaker within 30s, the screen will automatically enter into screen

saver status, in which case only a red spot is shown on the screen. Under screen saver status, you may press any key from remote controller to enter into associated operating interface.

## 8. Specifications

| Model                      | DSP1501                        |
|----------------------------|--------------------------------|
| Rated power                | 100W                           |
| Input sensitivity          | 00dBV, -06dBV, -10dBV /70-100V |
| Range of directivity angle | $\pm 45^\circ$                 |
| Size (mm)                  | (L×W×H) 153.5×110×1270         |
| Weight (mm)                | 13kg                           |

Specifications are subject to change without notice.

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